

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application

1. (Currently amended) A genetically modified plant cell comprising at least one foreign nucleic acid molecule, wherein said foreign nucleic acid molecule is:

a) a nucleic acid molecule coding a protein having the amino acid sequence of SEQ ID NO: 4;

b) a nucleic acid molecule coding a protein having an amino acid sequence with at least 95% identity to SEQ ID NO: 4;

c) a nucleic acid molecule comprising the nucleotide sequence of SEQ ID NO: 3, or the complementary sequence thereof; or

d) a nucleic acid molecule having at least 95% identity to the nucleic acid molecule of a) or c),

wherein said genetically modified plant cell ~~which~~ exhibits increased activity in at least one OK1 protein in comparison to corresponding wild type plant cells that have not been genetically modified.

2. (Currently amended) The genetically modified plant cell according to Claim 1, wherein the ~~genetic modification comprises at least one foreign nucleic acid molecule introduced into the genome of the plant~~ genetically modified plant cell comprises a nucleic acid molecule coding a protein having the amino acid sequence of SEQ ID NO: 4.

3. (Currently amended) The genetically modified plant cell according to Claim 1 ~~[[2]]~~, wherein the ~~foreign nucleic acid molecule codes an OK1 protein~~ genetically modified plant cell comprises a nucleic acid molecule coding a protein having an amino acid sequence with at least 95% identity to SEQ ID NO: 4.

4. (Previously presented) A genetically modified plant cell according to Claim 1, which synthesises a modified starch in comparison to the corresponding wild type plant cells that have not been genetically modified.

5. (Previously presented) The genetically modified plant cell according to Claim 4, wherein the modified starch has an increased starch phosphate content and/or a modified phosphate distribution.

6. (Previously presented) The genetically modified plant cell according to Claim 5, wherein the modified starch has a modified C-3 phosphate to C-6 phosphate ratio.

7. (Previously presented) A plant comprising one or more genetically modified plant cells according to Claim 1.

8. (Previously presented) A plant according to Claim 7, which is a starch-storing plant.

9. (Previously presented) A plant according to Claim 8, which is a maize plant or wheat plant.

10. (Previously presented) Propagation material from a plant according to Claim 7.

11. (Previously presented) A harvestable plant part of a plant according to Claim 7.

12. (Currently amended) A method of manufacturing a genetically modified plant, comprising:

a) ~~genetically modifying a plant cell;~~ introducing at least one foreign nucleic acid molecule into a plant cell, wherein said foreign nucleic acid molecule is:

i) a nucleic acid molecule coding a protein having the amino acid sequence of SEQ ID NO: 4;

ii) a nucleic acid molecule coding a protein having an amino acid sequence with at least 95% identity to SEQ ID NO: 4;

iii) a nucleic acid molecule comprising the nucleotide sequence of SEQ ID NO: 3, or the complementary sequence thereof; or

iv) a nucleic acid molecule having at least 95% identity to the nucleic acid molecule of i) or iii),

wherein said introduction of said foreign nucleic acid molecule ~~wherein the genetic modification~~ increases the enzymatic activity of at least one OK1 protein in comparison to corresponding wild type plant cells that have not been genetically modified;

b) regenerating a plant from one or more plant cells from Step a); and

c) optionally producing one or more additional plants from a plant according to Step

b).

13. (Canceled)

14. (Canceled)
15. (Canceled)
16. (Canceled)
17. (Canceled)
18. (Canceled)
19. (Canceled)
20. (Canceled)
21. (Canceled)
22. (Canceled)
23. (Canceled)
24. (Canceled)
25. (Currently amended) An isolated nucleic acid molecule coding a protein with the enzymatic activity of an OK1 protein, comprising:
 - a) a nucleic acid molecule coding a protein having the amino acid sequence of SEQ ID NO: 2 or SEQ ID NO: 4;
 - b) a nucleic acid molecule coding a protein ~~that has~~ having an amino acid sequence with at least 95% an identity of at least 60% with SEQ ID NO: 2 or to SEQ ID NO: 4;
 - c) a nucleic acid molecule comprising the nucleotide sequence of SEQ ID NO: 1 or SEQ ID NO: 3, or [[a]] the complementary sequence thereof; or
 - d) a nucleic acid molecule having at least 95% an identity of at least 60% with a to the nucleic acid molecule of a) or c);
 - e) ~~a nucleic acid molecule, which, under stringent conditions, hybridizes with at least one strand of a nucleic acid molecule of a) or c);~~
 - f) ~~a nucleic acid molecule, which, due to degeneration of the genetic code, has a divergent nucleotide sequence from the sequence of a nucleic acid molecule of a) or c); or~~

~~g) a nucleic acid molecule comprising a fragment, allelic variant, and/or a derivative of a nucleic acid molecule of a), b), c), d), e), or f).~~

26. (Currently amended) [[A]] The nucleic acid molecule according to Claim 25, which codes an OK1 protein from *Arabidopsis* or an OK1 protein from rice wherein said nucleic acid molecule is a nucleic acid molecule coding a protein having the amino acid sequence of SEQ ID NO: 4.

27. (Previously presented) A recombinant nucleic acid molecule comprising a nucleic acid molecule according to Claim 25.

28. (Previously presented) A vector comprising a nucleic acid molecule according to Claim 25.

29. (Previously presented) The vector according to Claim 28, wherein the nucleic acid molecule is linked with at least one regulatory sequence, which initiates transcription in prokaryotic or eukaryotic cells.

30. (Previously presented) A host cell, which is genetically modified with a nucleic acid molecule according to Claim 25.

31. (Previously presented) A composition comprising a nucleic acid molecule according to Claim 25.

32. (Previously presented) A method comprising using the composition of Claim 31 to identify a plant cell having an increased activity of at least one OK1 protein in comparison to wild type plant cells that have not been genetically modified.

33. (Canceled)

34. (Canceled)

35. (Previously presented) A vector comprising a recombinant nucleic acid molecule according to Claim 27.

36. (Previously presented) A host cell, which is genetically modified with a recombinant nucleic acid molecule according to Claim 27.
37. (Previously presented) A host cell, which is genetically modified with a vector according to claim 28.
38. (Previously presented) A host cell, which is genetically modified with a vector according to claim 35.
39. (Previously presented) A composition comprising a recombinant nucleic acid molecule according to claim 27.
40. (New) The genetically modified plant cell according to Claim 1, wherein the genetically modified plant cell comprises a nucleic acid molecule comprising the nucleotide sequence of SEQ ID NO: 3, or the complementary sequence thereof.
41. (New) The genetically modified plant cell according to Claim 1, wherein the genetically modified plant cell comprises a nucleic acid molecule having at least 95% identity to the nucleic acid molecule of a) or c).
42. (New) The method according to Claim 12, wherein said nucleic acid molecule is a nucleic acid molecule coding a protein having the amino acid sequence of SEQ ID NO: 4.
43. The method according to Claim 12, wherein said nucleic acid molecule is a nucleic acid molecule coding a protein having an amino acid sequence with at least 95% identity to SEQ ID NO: 4.
44. (New) The method according to Claim 12, wherein said nucleic acid molecule comprises the nucleotide sequence of SEQ ID NO: 3, or the complementary sequence thereof.
45. (New) The method according to Claim 12, wherein said nucleic acid molecule is a nucleic acid molecule having at least 95% identity to the nucleic acid molecule of i) or iii).

46. (New) The nucleic acid molecule according to Claim 25, wherein said nucleic acid molecule is a nucleic acid molecule coding a protein having an amino acid sequence with at least 95% identity to SEQ ID NO: 4.

47. (New) The nucleic acid molecule according to Claim 25, wherein said nucleic acid molecule comprises the nucleotide sequence of SEQ ID NO: 3, or the complementary sequence thereof.

48. (New) The nucleic acid molecule according to Claim 25, wherein said nucleic acid molecule is a nucleic acid molecule having at least 95% identity to the nucleic acid molecule of a) or c).